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AN ABNORMAL ODONTOGLOSSUM CERVANTESII.

BY HENRI HUS.

The flowers of *Odontoglossum* seem frequently to be subject to malformation. Penzig, in his Pflanzen-Teratologie, quotes numerous cases for different species. Had it not been for the fact that the case here brought forward presents some aspects not ordinarily met with in the teratology of *Odontoglossum* flowers, a brief notice elsewhere would have been considered sufficient.

Among the plants of *Odontoglossum Cervantesii* cultivated in the orchid house of the Missouri Botanical Garden during 1906, was one which bore, upon one of the scapes, five flowers one of which was abnormal, the one here used for purposes of illustration. The abnormality showed itself in the first place in the wings of the column which had become enlarged and were provided with coloring matter. The column bore three hoods with anther cases. Apparently but five floral segments were present. Two (pl. 9, 1, 2) of these were oval-oblong and, on account of their contour, were at once classed as sepals. Two others (pl. 9, 3, 4) were broader and possessed a more or less undulate margin. There was no difficulty in recognizing them as petals. The fifth segment (pl. 9, 5) was in form intermediate between petals and sepals and, at the time, was classed as a petal, chiefly because of its position. It had to be assumed that the labellum was under-developed.

However, during 1907, the same plant again produced abnormal flowers, and observations made on these caused a change in the views just expressed. The plant bore four scapes, the flowers of three of these being normal. The fourth scape produced five flowers, of which only the terminal one was normal, the four others being more or less malformed.

The flower lowest on the scape had three sepals and but one petal, the labellum, which appeared normal. On the other hand, the upper sepal was twice as broad as normal. The column was abnormal, the wings being absent. There were two anther cases instead of one, each enclosing but a single pollen mass. The stigma was rather smaller than normal.

The second flower was normal except for the right hand petal, which had grown fast to the column. The right wing of the column was three times as large and situated higher than the normal left wing. The stigma was abnormally elongated. There were two single pollen masses, abnormally large and not enclosed in the anther cases. The latter were rudimentary and situated at some distance at the back of the column.

The third flower was normal except for the left petal, which had grown fast to the column.

The fourth flower possessed all its parts but the right petal was fused with the labellum and also with the column. On that side the wing of the column was missing.

In view of the structure of these abnormal flowers it would perhaps be better to interpret the flower here illustrated as having three sepals, 1, 2 and 5. The two petals remain 3 and 4. To account for the sixth segment one would have to assume that the labellum had become fused with the column. This would help to explain the anomalous position of the sepal 5. What further lends color to this is the fact that the wings of the column are not only enlarged but also are provided with coloring matter, something which normally is not the case.

As far as our experience goes, it would seem that the amount and position of the color in the floral parts of *Odontoglossum Cervantesii* and its varieties is quite constant. Nearly a century has elapsed since the species was brought from Mexico. It is of easiest culture and opportunity for observation has been ample. From time to time there have appeared plants which differed from it in a few characters, and which have been given either specific or varietal rank. The more conservative authors of the present day recognize beside the species but three varieties, *i. e.*, var. *majus*, var. *decorum* and var. *Andersonii,* the differences lying chiefly in the size of the flower and in the shape, color and markings of the segments. It appears that these characters, and especially the markings, which consist of narrow bands and sometimes spots of red at the base of the petals and sepals and which sometimes occur in other places, are considered quite constant. Interesting in this connection is the opinion expressed by that eminent Belgian horticulturist, Charles Lemaire,* who was inclined to believe that intensity of color and size of flower depended on locality, greater or lesser intensity of heat and light and the relative time of flowering. He says: "Comme chez la presque totalité des plantes de cette curieuse famille, les dimensions des fleurs et l'intensité de leurs coloris paraît beaucoup varier: circonstances qui semblent dépendre uniquement de la station, des sommes diverses de la chaleur et de la lumière, et des époques relatives où se montrent les fleurs, c'est-à-dire plusieurs fois dans la même année."

While the above may be considered an argument for or against the theory of the constancy of varieties, in view of our experience with other varieties of widely different species, the present attitude towards *O. Cervantesii* and its immediate relatives may be considered correct. But it is of interest to note that, in the plants of *Odontoglossum Cervantesii* grown in the Missouri Botanical Garden, the coloring of the labellum seems to vary considerably in plants growing under identical conditions and flowering at the same time. While in one flower the labellum may be pure white, another flower on the same plant may have a labellum with one bar in front of the crest, while others again may show two, three, or even more bars, sometimes with the addition of one or more red spots.

EXPLANATION OF PLATE.

Plate 9.—Abnormal flower of *Odontoglossum Cervantesii*, × 2. In the center the entire flower: the other figures are parts of the same flower dissected. 1, 2. Sepals. 3, 4. Petals. 5. Column with a sepal attached. 6. Portion of enlarged wing of column, broken off.

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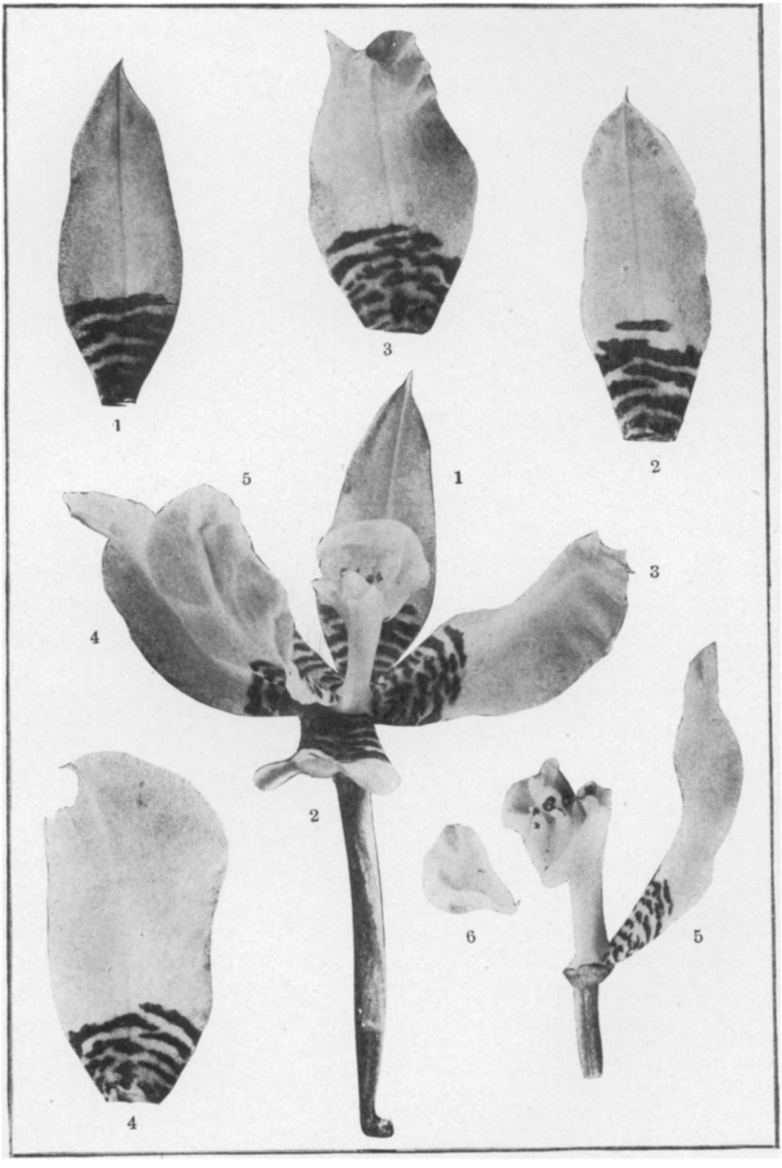
* Illustration Horticole. **1** : 12. 1854.



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